

IN THE CLAIMS:

Claim 1 (Currently amended): An apparatus for separating soil, the apparatus comprising:

a frame having a length defined between a first end of the frame and a second end of the frame;

an axle ~~associated with~~ connected to the frame between the first end of the frame and the second end of the frame wherein the axle has a length defined between a first end of the axle and a second end of the axle;

a cylinder connected to the frame wherein the cylinder has peripheral walls defining an interior wherein the cylinder has a portion extending outward with respect to the interior of the cylinder wherein the portion is movable with respect to the interior of the cylinder wherein the portion of the cylinder is located between the frame and the axle;

discs attached to the frame on opposite sides of the axle wherein at least one of the discs adjacent to the first side of the frame is non-parallel with respect to at least one of the discs adjacent to the second side of the frame wherein the discs are located between the frame and the soil and further wherein the discs rotate upon contact with the soil; and

a controller associated with the cylinder wherein the controller is remote ~~from~~ with respect to the frame wherein the controller controls movement of the frame via the cylinder wherein the discs are moved with the frame and further wherein the cylinder

extends between the axle and the frame to move the frame and the discs away from with respect to the axle ~~wherein movement of the first end of the frame in a first direction results in movement of the second end of the frame in a second direction wherein the first direction is opposite to the second direction.~~

Claim 2 (Currently amended): The apparatus of Claim 1 further comprising:

a hydraulic piston connected to front cylinder on the frame.

Claim 3 (Currently amended): The apparatus of Claim 1 further comprising:

a pillar ~~associated~~ connected to with the frame; and

a column inside the pillar.

Claim 4 (Currently amended): The apparatus of Claim 3 further comprising:

a liner attached to ~~an inside of~~ the pillar of the frame wherein the liner is located between the column and the pillar.

Claim 5 (Currently amended): The apparatus of Claim 3 further comprising:

plates located inside the pillar wherein the plates support ~~supporting~~ the column.

Claim 6 (Currently amended): The apparatus of Claim 1 further comprising:

a hitch having a length defined between an end of the hitch and a connector of the hitch wherein the end of the hitch is attachable to the frame.

Claim 7 (Currently amended): The connector of Claim 6 wherein the connector rotates in a first direction and a second direction wherein the first direction is opposite to the second direction 360 degrees.

Claim 8 (Currently amended): The apparatus of Claim 1 further comprising:

a wheel connected to the frame wherein the wheel supports
~~tires supporting~~ the frame.

Claim 9 (Currently amended): The apparatus of Claim 8 further comprising:

a plug in ~~each of the~~ wheel tires of the frame.

Claim 10 (Currently amended): A method for dividing soil, the method comprising the steps of:

providing a frame having a first ~~end bar~~ bar and a second ~~end bar~~ bar wherein the first bar is located opposite to the second bar wherein the frame has a first cross member and a second cross member connecting the first bar to the second bar wherein the first cross member has a first length wherein the second cross member has a second length wherein the first length of the first cross member is greater than the second length of the second cross member;

attaching an axle to the frame;

providing a cylinder ~~associated with~~ connected to the frame;

connecting the frame to a vehicle;

moving the frame by remotely controlling movement of the cylinder wherein movement of the cylinder moves the frame with

~~respect to first end toward the soil wherein pivots the frame pivots at with respect to the axle and causes movement of the second end away from the soil; and~~

pulling the frame over the soil.

Claim 11 (Original): The method of Claim 10 further comprising the step of:

providing a plurality of discs attached to the frame.

Claim 12 (Original): The method of Claim 10 further comprising the step of:

controlling elevation of the frame by adjusting the cylinder.

Claim 13 (Currently amended): The method of Claim 10 further comprising the step of:

adjusting an angle of the frame with respect to the soil by adjusting the cylinder.

Claim 14 (Currently amended): The method of Claim 10 further comprising the step of:

self-adjusting the cylinder of the frame for controlling the angle of the frame with respect to the soil.

Claim 15 (Currently amended): An apparatus for separating soil, the apparatus comprising:

a frame having a front cross bar and a rear cross bar wherein the front cross bar and the rear cross bar are connected by a beam maintaining a fixed distance between the front cross bar and the rear cross bar wherein the front cross bar is non-parallel with respect to the rear cross bar;

a first set of discs attached to the front cross bar;
a second set of discs attached to the rear cross bar;
a pillar ~~associated with~~ connected to the rear cross bar of
the frame wherein the pillar has a liner and a column located
inside of the pillar of the frame wherein the liner is located
between the pillar and the column; and

plates ~~associated with~~ connected to the pillar wherein the
plates retain the liner within the pillar wherein the liner is
located between the plates within the pillar wherein the pillar
moves with respect to the column wherein the pillar moves the frame
with respect to the soil ~~and wherein movement of the first set of~~
~~discs toward the soil causes movement of the second set of discs~~
~~away from the soil.~~

Claim 16 (Currently amended): The apparatus of Claim 15 further
comprising:

a cylinder ~~associated with~~ connected to the frame wherein the
cylinder moves the pillar and the frame with respect ~~relative~~ to
the ~~inside~~ column.

Claim 17 (Currently amended): The apparatus of Claim 15 further
comprising:

a ~~front cylinder on~~ hydraulic piston connected to the front
cross bar of the frame wherein the ~~front cylinder~~ hydraulic piston
moves to adjust the angle of the frame ~~relative~~ with respect to the
soil.

Claim 18 (Currently amended): The apparatus of Claim 15 further

comprising:

a hitch having a length defined between an end of the hitch and a connector of the hitch wherein the end of the hitch is attachable to the frame.

Claim 19 (Currently amended): The connector of Claim 18 wherein the connector rotates in a first direction and a second direction wherein the first direction is opposite to the second direction 360 degrees.

Claim 20 (Currently amended): The apparatus of Claim 15 further comprising:

a wheel connected to the frame for ~~tires~~ supporting the frame wherein the wheel is located between the front cross bar of the frame and the rear cross bar of the frame.

Claim 21 (Currently amended): An apparatus for separating soil, the apparatus comprising:

a frame having a top side and a bottom side wherein the top side is located opposite to the bottom side wherein the frame has a first axle and a second axle attached to the bottom side of the frame wherein the first axle is non-parallel with respect to the second axle;

a cylinder ~~associated with~~ connected to the top side of the frame;

a plurality of discs attached to the first axle and the second axle of the frame wherein the cylinder moves the frame;

a controller ~~associated with~~ connected to the cylinder wherein

the controller is remote ~~from~~ with respect to the frame and controls movement of the frame via the cylinder wherein the cylinder moves the plurality of discs with respect to the bottom side of the frame;

a pillar ~~associated with~~ connected to the frame;

a column located inside the pillar wherein the column has an end extending outwardly with respect to the pillar and the top side of the frame; and

a plurality of plates inside the pillar supporting the column wherein the column is located between the plurality of plates inside the pillar wherein the cylinder moves the column and the plurality of discs with respect to the soil ~~wherein one of the plurality of discs moves toward the soil causing one of the plurality of discs to be moved away from the soil.~~

Claim 22 (Currently amended): An apparatus for separating soil, the apparatus comprising:

a frame having a length defined between a first end of the frame and a second end of the frame wherein the frame has a height defined between a top end of the frame and a bottom end of the frame;

a cylinder attached to the top end of the frame wherein the cylinder has peripheral walls defining an interior of the cylinder wherein the cylinder has a length defined between a first end of the cylinder and a second end of the cylinder wherein the first end of the cylinder is attached to the frame wherein the second end of

the cylinder extends outwardly with respect to the top end of the frame;

a piston extending from the second end of the cylinder wherein the piston has a length defined between a proximate end of the piston and a distal end of the piston wherein the proximate end is secured to the interior of the cylinder;

a plurality of discs attached to the frame adjacent to the first end of the frame wherein the cylinder ~~lifts~~ vertically moves the frame and the plurality of discs ~~wherein movement of the second end in a downward direction causes the discs to move in a direction opposite to the downward direction of the second end;~~

a controller ~~associated with~~ connected to the cylinder wherein the controller is remote ~~from~~ with respect to the frame and controls movement of the piston wherein the piston moves toward the discs to lift the frame; and

a hitch having a length defined between an end of the hitch and a connector of the hitch wherein the end of the hitch is attachable to the frame and wherein the connector rotates in a first direction and a second direction wherein the first direction is opposite to the second direction ~~360 degrees.~~

Claim 23 (Currently amended): An apparatus for separating soil, the apparatus comprising:

a frame having a length defined between a first end of the frame and a second end of the frame;

a plurality of discs attached to the frame;

a pillar ~~associated with~~ having a length defined between a first end of the pillar and a second end of the pillar wherein the pillar is connected to the second end of the frame wherein the pillar has a liner attached to an inside of the pillar of the frame wherein the liner is located inside the pillar wherein the pillar has plates adjacent to the first end of the pillar and the second end of the pillar;

a column located inside the pillar wherein the plates ~~associated with~~ of the pillar support the column wherein the liner is located between the pillar and the column; and

a cylinder ~~associated with~~ connected to the frame wherein the cylinder moves the pillar and the frame relative with respect to the inside column wherein the pillar moves the plurality of discs with respect to the soil wherein movement of the first end of the frame toward the soil causes movement of the second end away from the soil.

Claim 24 (Currently amended): An apparatus for separating soil, the apparatus comprising:

a frame having a length defined between a first end of the frame and a second end of the frame;

a plurality of discs attached to the frame adjacent to the first end of the frame and the second end of the frame;

a pillar ~~associated with~~ connected to second end of the frame wherein the pillar has a liner and plates attached to an inside of the pillar of the frame;

a column located inside the pillar wherein plates ~~associated with~~ of the pillar support the column; and

a front cylinder ~~on~~ connected to the frame wherein the front cylinder and the column move ~~moves~~ the frame ~~relative and plurality of discs with respect to the soil wherein raising of the discs at the first end results in lowering of the discs at the second end with respect to the soil.~~

Claim 25 (Currently amended): An apparatus for separating soil, the apparatus comprising:

a frame having a length defined between a first end of the frame and a second end of the frame;

a plurality of discs attached to the frame;

a pillar ~~associated with~~ connected the frame wherein the pillar has a liner ~~attached to an~~ and plates connected to and located inside ~~of~~ the pillar of the frame wherein the liner is made from plastic;

a column located inside the pillar wherein plates connected to ~~associated with~~ the pillar support the column wherein the liner is located between the column and the pillar; and

a hitch having a length defined between an end of the hitch and a connector of the hitch wherein the end of the hitch is attachable to the frame and wherein the connector rotates ~~360 degrees~~ in a first direction and a second direction wherein the first direction is opposite to the second direction and wherein the frame moves along the pillar and pivots at a point between the

first end of the frame and the second end of the frame.

Claim 26 (Currently amended): An apparatus for separating soil, the apparatus comprising:

a frame having a length defined between a first end of the frame and a second end of the frame;

a cylinder ~~associated with~~ connected to the frame;

a first plurality of discs connected to the frame and adjacent to the first end of the frame;

a second plurality of discs attached to the frame and adjacent to the second end of the frame wherein the first plurality of discs is non-parallel with respect to the second plurality of discs wherein the cylinder moves the frame;

a controller ~~associated with~~ connected to the cylinder wherein the controller is remote ~~from~~ with respect to the frame and controls movement of the frame wherein the cylinder moves the first plurality of discs and the second plurality of discs with respect to the soil ~~raises the first end of the frame and simultaneously lowers the second end;~~

a pillar ~~associated with~~ connected to the frame;

a column located inside the pillar;

a liner located between the pillar and the column; and

plates connected to the pillar wherein the plates retain ~~retaining~~ the liner within the pillar.

Claim 27 (Currently amended): An apparatus for separating soil, the apparatus comprising:

a frame having a length defined between a first end of the frame and a second end of the frame wherein the frame has a first beam and a second beam connecting the first end of the frame to the second end of the frame wherein the first beam has a first length and the second beam has a second length which is less than the first length of the first beam;

a plurality of discs attached to the frame wherein a first set of discs are attached to the frame at the first end of the frame and a second set of discs are attached to the frame at the second end of the frame;

a pillar ~~associated with~~ connected to the frame wherein the pillar has a liner ~~within~~ located inside the pillar;

a column ~~within~~ located inside the pillar wherein the liner is positioned between the column and the pillar; and

a cylinder ~~associated with~~ connected to the frame wherein the cylinder moves the pillar ~~relative~~ with respect to the column and further wherein the cylinder moves the frame with respect to the soil ~~wherein movement of the first set of discs toward the soil causes movement of the second set of discs away from the soil.~~

Claim 28 (Currently amended): An apparatus for separating soil, the apparatus comprising:

a frame having a body defined by a plane wherein the frame has a length defined between a first end of the frame and a second end of the frame wherein the length of the frame defines an axis at a first position of the frame;

a plurality of discs attached to the frame;

a wheel ~~tires~~ attached to the frame wherein the ~~tires are~~
wheel is positioned between the frame and the soil and wherein the
discs are positioned on opposite sides of the wheel ~~tires~~;

a pillar ~~associated with~~ connected to the second end of the
frame wherein the pillar has a liner ~~within~~ located inside the
pillar; and

a front cylinder positioned ~~on~~ at the first end of the frame
wherein the front cylinder moves the frame from a first position to
a second position wherein the front cylinder moves the first end of
the frame ~~in a first direction vertically~~ with respect to the axis
wherein the frame moves the plurality of discs with respect to the
soil ~~front cylinder moves the second end of the frame in a second~~
~~direction vertically with respect to the axis wherein the first~~
~~direction is opposite to the second direction and wherein the tires~~
~~remain~~ wheel remains in contact with the soil independent of a
position of the discs.

Claim 29 (Currently amended): An apparatus for separating soil, the
apparatus comprising:

a frame having a front bar and a rear bar wherein the rear bar
is located opposite to the front bar wherein the front bar has a
length defined between a first end of the front bar and a second
end of the front bar wherein the rear bar has a length defined
between a first end of the rear bar and a second end of the rear
bar wherein the first end of the front bar is adjacent to the first

end of the rear bar wherein the first end of the front bar is separated from the first end of the rear bar by a first distance wherein the second end of the front bar is separated from the second end of the rear bar by a second distance wherein the second distance is greater than the first distance;

a plurality of discs attached to the frame;

one or more pillars ~~associated with~~ connected to the rear bar the frame wherein each of the pillars has a body defined between a first end of each of the pillars and a second end of each of the pillars and further wherein each of the pillars has a liner ~~within~~ located inside each of the pillars;

plates attached to the first end and the second end of each of the pillars; and

a hitch having a length defined between an end of the hitch and a connector of the hitch wherein the end of the hitch is attachable to the frame and wherein the connector rotates in a first direction and in a second direction wherein the first direction is opposite to the second direction ~~360 degrees~~ and wherein the frame is moved along the body of each of the pillars.

Claim 30 (Currently amended): An apparatus for separating soil, the apparatus comprising:

a frame;

an axle associated with the frame wherein the axle serves as a fulcrum wherein the frame pivots with respect to the axle;

a cylinder ~~associated with~~ connected to the frame;

discs attached to the frame wherein the discs are aligned on and attached to the axle between the frame and the soil and further wherein the discs rotate upon contact with the soil;

a controller associated with the cylinder wherein the controller is remote from the frame and controls movement of the frame such that the discs are moved with the frame;

a pillar ~~associated with~~ connected to the frame wherein the pillar has a liner located inside the pillar wherein the liner is made of plastic;

a column located inside the pillar; and

plates located inside the pillar wherein the plates support supporting the column.

Claim 31 (Currently amended): An apparatus for separating soil, the apparatus comprising:

a frame having a height defined between a top end of the frame and a bottom end of the frame;

an axle connected to the bottom end of the frame wherein the axle serves as a fulcrum wherein the frame pivots with respect to the axle ~~wherein the bottom end of the frame is located between the axle and the top end of the frame;~~

a cylinder attached to the frame and to the axle wherein the cylinder has a length defined between a first end of the cylinder and a second end of the cylinder wherein a first end of the cylinder is connected to the top side of the frame and the second end of the cylinder is connected to the axle;

discs attached to the frame wherein the discs are positioned between the frame and the soil and further wherein the discs rotate upon contact with the soil;

a controller connected to the first end of the cylinder wherein the controller is remote ~~from~~ with respect to the frame and controls movement of the frame wherein the cylinder extends between the axle and the frame wherein the second end of the cylinder moves the frame with respect to ~~away from~~ the axle; and

a hitch having a length defined between an end of the hitch and a connector of the hitch wherein the end of the hitch is attachable to the frame wherein the connector rotates in a first direction and a second direction wherein the first direction is opposite to the second direction ~~360 degrees~~.

Claim 32 (Currently amended): An apparatus for separating soil, the apparatus comprising:

a frame;

a first ~~an~~ axle connected to ~~associated with~~ the frame;

a second axle connected to the frame wherein the second axle serves as a fulcrum wherein the frame pivots with respect to the second axle;

a cylinder connected to ~~associated with~~ the frame;

discs attached to the frame wherein the discs are aligned on and attached to the first axle between the frame and the soil and further wherein the discs rotate upon contact with the soil;

a controller ~~associated with~~ connected to the cylinder wherein

the controller is remote ~~from~~ with respect to the frame and controls movement of the frame such that the discs are moved with the frame and wherein the frame pivots with respect to the second axle;

a pillar ~~associated with~~ connected to the frame; and

a column located inside the pillar wherein the pillar moves with respect to the column wherein the pillar moves the discs with respect to the soil.

Claim 33 (Currently amended): The apparatus of Claim 32 further comprising:

a liner attached to ~~an inside of~~ the pillar of the frame wherein the liner is located between the column and the pillar.

Claim 34 (Currently amended): The apparatus of Claim 32 further comprising:

plates located inside the pillar wherein the plates support supporting the column within the pillar.

Claims 35-37 (Cancelled)

Claim 38 (Currently amended): An apparatus for separating soil, the apparatus comprising:

a frame having a length defined between a first end of the frame and a second end of the frame wherein the frame has a top side and a bottom side wherein the bottom side is located opposite to the top side;

an axle ~~associated with~~ connected to the bottom side of the frame;

a cylinder ~~associated with~~ connected to the frame wherein the cylinder has a length defined between a first end of the cylinder and a second end of the cylinder wherein the first end of the cylinder is connected to the top side of the frame wherein the second end of the cylinder is connected to the axle;

discs attached to the bottom side of the frame on opposite sides of the axle wherein the discs are located between the frame and the soil and further wherein the discs rotate upon contact with the soil; ~~and~~

a controller ~~associated with~~ connected to the first end the cylinder wherein the controller is remote ~~from~~ with respect to the frame and controls movement of the frame such that the discs are moved with the frame and wherein the frame pivots with respect to the axle via the second end of the cylinder wherein movement of the second end of the cylinder moves the frame with respect to the axle ~~wherein movement of the first end of the frame in a first direction results in movement of the second end of the frame in a second direction wherein the first direction is opposite to the second direction;~~

a pillar connected to the frame; and

a column located inside the pillar.

Claim 39 (Currently amended): The apparatus of Claim 38 further comprising:

a liner attached to ~~an inside of~~ the pillar of the frame wherein the liner is located between the pillar and the column.

Claim 40 (Currently amended): The apparatus of Claim 38 further comprising:

plates located inside the pillar wherein the plates support
~~supporting~~ the column.